Oil House
Delaware, Lackawanna & Western Railroad
Scranton
Lackawanna County
Pennsylvania

HAER No. PA-132E

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, D.C. 20013-7127

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HISTORIC AMERICAN ENGINEERING RECORD

Delaware, Lackawanna & Western Railroad: Scranton Yards
Oil House

HAER NO. PA-132E

LOCATION: 650 feet southeast of Cliff and Mechanic Streets, Scranton, Lackawanna County, Pennsylvania

UTM: 18/44385/458405
QUAD: Scranton

DATE OF CONSTRUCTION: 1911

ENGINEER/ ARCHITECT: George J. Ray, chief engineer; Frank J. Nies, architect

CONTRACTOR: Delaware, Lackawanna & Western Railroad

PRESENT OWNER: United States Department of the Interior, National Park Service

PRESENT USE: Not in use.

SIGNIFICANCE: The D,L & W oil house supplied lubricating, cleaning and fuel oils to the locomotives and machinery at the railroad's Scranton yards. It is representative of early twentieth-century oil handling facilities.

HISTORIAN: Kathryn Steen
Delaware, Lackawanna & Western Railroad: Scranton Yards Recording Project, 1989

INTRODUCTION

The Delaware, Lackawanna and Western, like other railroads, made extensive use of a variety of oils for lubrication, cleaning and fueling engines and cars. The flammable liquids were generally stored in their own fireproof building;[1] in 1911, the Delaware, Lackawanna and Western built an oil house to serve the Scranton yards. The oil house had two functions: to store and distribute oils needed on the line and to supply the immediate yards. [2]

OIL HOUSE LAYOUT

The Scranton oil house conformed in most respects to general principles of oil house construction. The building was a two-story structure housing the oil tanks in the basement and a pump room and a supply room on the top floor. Fireproofing was the single most important factor in the building's construction; for the most part, wood was eliminated as a construction material; the interior and exterior walls, the floors and ceiling were all concrete while the doors and the spiral stairway were steel.[3] Within the yard, the oil house was isolated from most of the other buildings, yet close enough to be convenient. The locomotives consumed vast amounts of oil and consequently, when a roundhouse existed, that was the destination of a large percentage of the oil.

In Scranton, the oil house was in a location convenient to the roundhouse, and also to tracks where locomotives could easily receive oil. [4]

The floor of the upper story was raised above ground level equal to the height of a railroad car floor to facilitate loading and unloading cargo from the tracks that ran in front of the oil house. Oil was gravity delivered into the tanks in the basement; a hose connected the car to a nozzle, or stopcock, in the window-like openings at the base of the platform, and pipes connected these nozzles to the tanks. Typically, there was one delivery pipe per type of oil.[5]

In the basement, there were fourteen steel tanks set on concrete foundations. Seven of these tanks were larger 8000-gallon tanks. At 30 feet long with a diameter of 6½ feet, these tanks filled most of the space in the basement.[6] The larger tanks probably contained car oil, engine oil, and valve oil; and may also have held signal oil, headlight oil, mineral seal oil, and crude oil.[7] Five of the tanks had 1,000 gallon capacities and the remaining two each held 600 gallons.[8] The smaller tanks may have held some of the oils listed above, and also benzine, turpentine, gasoline, and locomotive paint.[9] The tanks would have had ventilation, probably through pipes that rose and vented out of the top of the building.[10]

Upstairs, the supply room was primarily storage for the sheet iron drums used in distributing the oils. At one point, the oil

house contained 630 of the drums.[11] Overhead in the supply room was a one-ton hoist. The original plans showed a New Century hoist, but by 1921, an inventory called the hoist a Triplex chain hoist, an 1898 model by Yale and Towne.[12] The tracks for the hoist covered the interior of the supply room and also ran out over the platform to aid in loading the cars on the nearby tracks.[13]

The pump room was on the north side of the supply room. Thirteen handpumps were lined up along the south wall. Built by Gilbert and Parker of Springfield, Massachusetts, these pumps were connected to the smaller tanks downstairs. A maze of pipes over the tanks in the basement made it possible to group all of the pumps above together. The handpumps were all self-measuring, meaning that the pumps could be set for a specific amount of oil, avoiding the waste in overflow.[14] The amount of oil pumped could vary from a pint to gallons.[15]

Approximately 5 feet in front of the hand pumps was a row of power pumps. These six Twin Cylinder National Oil Pumps built by W.N. Durant and Company of Milwaukee, Wisconsin, were powered by an overhead shaft. The shaft was run by a three-horsepower Western Electric motor that was originally mounted on the south wall in the pump room, but later moved outside the pump room above the loading platform.[16] There was a total of thirteen pumps, compared to fourteen tanks. It is probable that there was one pump per type of oil, and therefore at least two tanks contained the same type of oil.[17]

Below each pump's spout was a drip pan connected to drainage pipes. If there was spillage, the oil went through a strainer and returned to the tank. The drainage pipes were also an alternate way to fill the tanks if the oil should arrive in barrels instead of a railroad car.[18]

There was a small office-like space in the southeast corner of the pump room, mainly taken up by a large steel counter. This was probably the location of accounting materials such as shelving, record books, a typewriter, and a countertop scale.[19] The pump room also contained equipment for boiling oil, packing oil, and cleaning.[20] There was a grease press that was also probably located in the pump room. A grease press was used for "preparing the lubricant for the hard grease cups on locomotives."[21] Scranton's grease press was built in the shops on site.[22]

The Scranton oil house deviated from typical design in one important respect. While most oil houses had a third room upstairs solely to deal with waste products, the Scranton oil house devoted a mere 7' X 3' space in the pump room for waste storage. The answer to the seeming inadequacy can be found in the Interstate Commerce Commission inventory of railroad properties in the 1910s and '20s. The inventory referred to the previous, old oil house as a "Waste Reclaiming House."[23] Apparently when the new oil house was designed, it was done with the knowledge that the old oil house would be the yard's repository for waste oil. The small waste storage space in the new oil house would have been sufficient for

temporary storage.

The entire building was equipped with electric lighting and steam heat. The heat was important, particularly in winter, to keep the oil from getting too viscous to flow. There were vents in the ceiling to provide adequate ventilation for the gases and fumes.[24]

NOTES

1.John Wilson Orrock, Railroad Structures and Estimates, second edition (New York: John Wiley and Sons, Inc., 1918), 556.

2.Walter G. Berg, Buildings and Structures of American Railroads (New York: John Wiley and Sons, 1893), 81.

3.Orrock, 558.

4.Berg, 82; and Railway Shop Up to Date (New York: Crandall Publishing Company, 1907), 175.

5.Railway Engineering and Maintenance Cyclopedia, third edition (New York: Simmons-Boardman Publishing Co., 1929), 659, 661.

6.Interstate Commerce Commission, "Inventory of Furniture, Tools and Miscellaneous Items," Valuation Section 21, Account No. 20, (October 28, 1918), 191.

7."A Modern Oil House," Railway Master Mechanic. Vol. 31, No. 11 (November 1911), 379.

8.I.C.C., "Inventory", 191.

9."A Modern Oil House," 379.

10.Orrock, 556-8.

11.I.C.C., "Inventory," 195.

12.Delaware, Lackawanna and Western Railroad Company, "Oil House: Scranton, Pennsylvania", June 2, 1911, (plan), Steamtown National Historic Site, Scranton, Pennsylvania; and I.C.C., "Inventory," 191.

13.D.L. & W., "Oil House," (plan).

14.I.C.C., "Inventory," 191; and D, L & W, "Oil House," (plan).

15."A Modern Oil House," 380.

16.I.C.C. "Inventory," 191; and D.L. & W., "Oil House" (plan); and Delaware, Lackawanna and Western Railroad Company, photograph of interior of oil house, George Arents Research Library, Syracuse University.

17.Cyclopedia, 661.

18.I.C.C., "Inventory," 196, 198; and Orrock, 556; and "A Modern Oil House," 380.

19.I.C.C.,"Inventory," 195.

20.D,L & W, "Oil House", (plan).

21."A Modern Oil House," 380.

22.I.C.C., "Inventory," 191.

23.Interstate Commerce Commission, "Pre-Inventory Schedule of Piping," Valuation Section 21, Account No., 20, (January 19, 1921), 204.

24.I.C.C., "Inventory," 197; and "A Modern Oil House," 381.

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Delaware, Lackawanna and Western Railroad Company. "Oil House: Scranton, Pennsylvania." June 2, 1911. Plan. Steamtown National Historic Site, Scranton, Pennsylvania.

Delaware, Lackawanna and Western Railroad Company. Photograph of interior of oil house. George Arents Research Library, Syracuse University.

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